Remarks

Claims 1-18 and 34-52 are allowed. Claims 20, 22, 23, 25, 27, 28, 32 and 33 are objected to.

Applicant respectfully requests reconsideration and reexamination.

Rejection – 102 based on Amrany

Claims 24, 26, 29, 31 and 53 are rejected based on Amrany. Please note that claim 29 was previously canceled. A formal amendment was made to claim 26 to provide antecedent basis for the phrase "said requests," but the change as not intended to narrow the scope of the claim.

Applicants disagree that Amrany teaches the elements of the invention. That reference relates to an xDSL modem (column 3, lines 6-9). As understood, the reference to modem refers to a modem (such as 28) at the customer premises. The modem has a circuit that senses conditions within the customer premises, such as whether filters are installed on individual telephones or whether a phone is on or off hook. Based on the conditions, the modem will increase or decrease the power level or data rate at which it transmits.

Claims 24 and 26 relate to a method of marketing telephone lines to customers. The lines are "pre-qualified" for carrying data services based on the "speed" of the lines. Of particular significance, the measurements needed to pre-qualify the lines are "one-ended" measurements.

In contrast, with two ended measurements, some action is required at the far end of the line to make the measurement. Such an approach is not generally useful for a telephone company where it might not be cost effective to make two-ended measurements or where it is desired to pre-qualify the lines before they are hooked to a customer premises.

Claim 24 goes on to recite that the high speed data services are offered to customers that have the pre-qualified lines. Claim 26 further recites that the pre-qualified lines are connected to the customers who request high speed data services.

The reference does not discuss assigning lines based on pre-qualification. Nor does it disclose any technique that would be useful for one ended measurements that could pre-qualify a line based on operating speed. Accordingly, the reference does not teach or suggest the claims.

As to claim 31, this claim recites a test system that characterizes customer lines. The system can make lower frequency measurements through a switch, but can predict performance at higher frequencies. This is a significant feature because test access in many switches currently used in telephone networks were adapted for relatively low frequency voice signals. But, data about operation at higher frequencies (e.g.. high speed data services) is needed by the phone company.

The one-ended measurement capability is likewise important to allow the user of the system to test lines without the cost associated with two ended measurements or to test lines that are not yet connected to a customer premises.

The reference, as understood, relates to a modem installed at the customer premises. No measurements are made through a switch. The reference is addressed to a different problem and has no teaching relating to the claimed features. It does not anticipate or render obvious the claims.

As to claim 53, this claim recites some specific details of one of the technique used to make the speed qualification measurement. In particular, it recites finding a specific signature in the admittance as a function of frequency. Applicants do not agree that the reference shows a bridged tap. In the reference, 26, 29 and 90 appear to be phones. 27 appears to be an analog modem. 52, 54 and 56 appear to be filters. None of these devices would be understood to be a bridged tap by those of skill in the art. A bridged tap is a wire attached to a loop. For example, a bridged tap arises in a telephone network when wires are laid out for a particular location and then new wires are attached to the original location to connect to a telephone in a different location. If some portion of the length of original wire is not needed, but is not removed, that leftover portion becomes a bridged tap.

Bridged taps are a particularly difficult problem when lines are to be used for high speed data services. Bridged taps were generally not removed when the lines were used for voice communications because they did not impact voice signals. However, the higher frequency signals used for data services can be seriously impacted by a bridged tap.

Rejection – 102 based on Borchert

Claims 53-57 are also rejected based on Borchert.

Applicants respectfully disagree. The claims recite a specific method of finding a bridged tap on a telephone line. As indicated in the application, a bridged tap can impact the ability of the line to support high speed data services.

In contrast, Borchert relates to a time domain reflectometry (TDR) approach to finding bridged taps. As understood, such an approach sends an electrical pulse down the telephone line and measures the reflection of that pulse coming back. The result is a display of the reflected pulse. Applicants do not believe, even if the claim is interpreted broadly, that the reference could be fairly characterized as describing a system that determines admittance and detects a bridge tap based on finding a particular signature in the admittance.

The Examiner specifically points to FIG. 23-24 and col. 10, line 4 to column 11, line 2. Figures 23 and 24 appear to show a voltage pulse. The corresponding text describes how a bridged tap can be recognized from those voltage pulses. Applicants see no mention of measuring admittance or detecting a bridged tap from admittance measurements as recited in the claim.

The dependent claims further distinguish the reference. For example, claim 54 specifically recites that the measurement frequency is below the frequency of the data signal. One advantage of such an approach is that the line can be tested using portions of the network that were intended for voice signals and can only carry low frequency signals. For example, a voice switch. A pulse used by a time domain reflectometer is generally not a low frequency signal and can not usually be placed through a switch.

Rejection – 103 based on Amrany and Burgess

Claims 19 and 21 are rejected based on Amrany and Burgess.

Applicants respectfully disagree. Amrany, as discussed above, is understood to relate to an xDSL modem that is installed at a customer's premises once they have already purchased high speed data services. And, it appears mainly to adjust the transmission parameters of the signal on the line based on whether a telephone also attached to the line is on or off hook. Applicants see no teaching or suggestion that relates to testing a subscribed line based on the condition of the line.

Nor does Burgess relate to this topic. Burgess teaches a way to change the characteristics of the line to allow or block data services, based on what the customer has paid for. This is a different problem than what the Applicants have solved. In Burgess, it

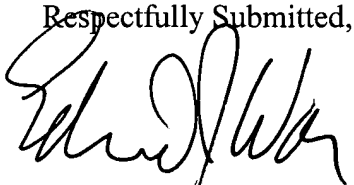
is assumed that the line can support high speed data services. In the invention, the effort is to find out whether the line can support high speed data services – or the level at which high speed data services are supported – and to set the billing rate accordingly. Applicants contend that Burgess provides no teaching relative to what the applicant has claimed.

Claim 21 depends from claim 19 and adds further distinguishing features. None of the references teaches a monitoring function. This is a particular advantage that can be achieved using one-ended electrical measurements. Because no interaction is required with the far end of the line, the measurements can be repeatedly easily and frequently. For example, such a process would be very useful by a phone company that wanted to guarantee data rates or to charge a premium for a line that consistently delivers high performance. Neither the specific claimed technique nor the motivation for it are taught in the reference and it can not be said that the claim is obvious.

Conclusion:

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to that effect is earnestly solicited.

Respectfully Submitted,



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